INTERIM JOINT COMMITTEE ON EDUCATION

Minutes of the 2nd Meeting of the 2004 Interim

August 25, 2004

The second meeting of the Interim Joint Committee on Education was held on Wednesday, August 25, 2004, at 1:30 PM, in Ballrooms B and C at the University Club at the University of Louisville. Senator Lindy Casebier, Co-Chair, called the meeting to order, and the secretary called the roll.

Present were:

Members: Senator Lindy Casebier, Co-Chair; Representative Frank Rasche, Co-Chair; Senators Walter Blevins, Brett Guthrie, Vernie McGaha, Gerald Neal, R.J. Palmer II, Jerry Rhoads, Dan Seum, Gary Tapp, and Jack Westwood; Representatives Mike Cherry, Hubert Collins, Jon Draud, Ted "Teddy" Edmonds, C.B. Embry Jr, Tim Feeley, Mary Harper, Mary Lou Marzian, Reginald Meeks, Charles Miller, Harry Moberly, Tom Riner, Charles Siler, and Jim Thompson.

Guests: Representative Rocky Adkins and Representative Fred Nessler; Bonnie Brinly, Kentucky Department of Education; Marcia Seiler, Office of Education Accountability; Wiley Williams, University of Louisville Math Department; Victoria Molfese, University of Louisville Early Childhood; William S. Bush, University of Louisville College of Education; Michael Gritton, Kentuckiana Works; Allen Rose, Sullivan University and Jefferson Community College; Todd Wetzel, University of Louisville Office of Communications and Marketing; Joey Beyel, University of Louisville; Sue Moore and Tom Layzell, Council on Postsecondary Education; Carrie Anderson, University of Louisville, Dr. John Trent and Jennifer Marsh, University of Louisville Brown Cancer Center; Roland Haun, Kentucky Association of School Superintendents; Wayne Young, Kentucky Association of School Administrators; Ben Jeffries, Legislative Intern; Sheila Poore, Jefferson County Public Schools (JCPS); Judy Embry, University of Kentucky Reading Recovery; Carol Edelin, Prichard Committee; Sarah Hester; Mary Given Wheeler, Louisville Metro Cabinet for Health and Family Services; and Doan Hughes, Dataseam.

LRC Staff: Audrey Carr, Jonathan Lowe, Janet Stevens, Sandy Deaton, Chuck Truesdell, and Lisa Moore.

Senator Casebier welcomed Mayor Jerry Abramson who brought greetings to the members. He introduced Dr. James Ramsey, President, University of Louisville (UofL),

who welcomed members, and introduced Dr. Shirley Willihnganz, Provost, UofL, who assisted with Dr. Ramsey's presentation.

Dr. Ramsey said UofL's main goal is based on the General Assembly's mandate in the Postsecondary Education Improvement Act of 1997 "To become a preeminent metropolitan research university". He said UofL has five goals to accomplish this. They are: 1) provide educational excellence; 2) build the research enterprise; 3) be a diverse, open, and accessible campus; 4) collaborate and be a community partner; and 5) be good stewards; be accountable.

Dr. Ramsey said members will hear about the status of the research challenge trust fund, and "Bucks for Brains" investments, enrollment and retention, and lifelong education initiatives.

Dr. Ramsey said UofL has about 30 Ph.D. programs. He said UofL has identified five key areas in which to devote efforts. They are: 1) early childhood education; 2) engineering; 3) entrepreneurship; 4) health and life sciences; and 5) logistics and distribution.

Dr. Ramsey said from 1997 through 2004, the endowed professorships have increased from 29 to 95. He said federal research funding has increased from $9.5 million to $57.5 million, which generates $2.2 million in economic benefits such as jobs and tax revenues for each $1 million in federal funds. The total research grants/contracts have increased from $21 million to $101 million, and patents awarded have increased from 15 to 33.

Dr. Ramsey said more importantly, the research at UofL is really making a difference in the quality of life for the people of Kentucky. He said focus is on protecting the heart after a heart attack; improving cancer diagnosis and treatment; improving patient recovery following surgery; improving delivery of products; assisting aspiring entrepreneurs; and diagnosing learning disabilities in early childhood.

Dr. Ramsey said UofL is currently trying to finalize raising the money for the third round of the "Bucks for Brains" program, which the General Assembly approved in 2003. He discussed the Belknap Campus research building that the General Assembly authorized for funding at 60 percent state dollars, and 40 percent university funds. He said the building is under construction, and will be open in the near future. It will contain one of six clean laboratory rooms in the country, which will allow certain types of medical and engineering research to be conducted. He said UofL's highest priority in the last legislative session was to build another research building down at the medical school, in order to continue to grow and build a preeminent metropolitan research institution.

Dr. Ramsey discussed enrollment and retention at UofL. He referred members to the enrollment chart in the handout. He said UofL has about 21,464 students enrolled, of which 14,724 are undergraduate students. He said UofL is not trying to increase the

undergraduate enrollment to be the biggest. They are trying to focus on quality and excellence in recruiting the best and brightest students, and giving them the opportunity to be successful. If UofL is successful in doing that, the educated population will increase on its own.

Dr. Ramsey said UofL is trying to increase the number of Ph.D. scientists and engineers. Their attention is focused on growing the graduate school enrollments, and increasing the number of Ph.D's in the state.

Dr. Ramsey said the average ACT score for a first-time, full-time freshman was 21.5 in 1999, and 23.4 in 2003. He said grade point average and the number of students with ACT scores greater than 27, in terms of national merit, was almost doubled for this fall semester.

Dr. Ramsey said the retention rate in 1999 for year-to-year freshmen was 68.8 percent. It increased to 77.1 percent in 2003. The goal for 2008 is 78 percent. He said the six-year graduation rate at UofL in 1999 was 31.9 percent. It increased to 34.9 percent in 2003. The goal for 2008 is a 45 percent graduation rate.

Dr. Ramsey said the enrollment and retention challenges at UofL include: 1) nature of a metropolitan institution; 2) ability to offer courses/class sizes; 3) tuition increases; and 4) rising cost of support services (library resources, technology).

Dr. Willihnganz discussed strategies for improving graduation rates at UofL. She said UofL has specific enrollment and retention strategies including: 1) financial aid investment (budget is about $60 million, with $27 million coming from the general fund); 2) budget strategies protecting academic programs; 3) Resources for Academic Excellence (REACH) program; 4) academic advising and career services; 5) additional residence halls; and 6) enhanced freshman year experience.

Dr. Willihnganz said the lifelong education initiatives include: 1) key issues in early childhood education, Dr. Victoria Molfese; 2) Center for Research in Math and Science Teacher Development, Dr. Bill Bush; 3) GRID Computing, Dr. John Trent; 4) Groundwork Education in Mathematics and Science, Dr. Christine V. Rich; 5) "Every1Reads" Partnership, Dr. Stephen Daeschner, Mr. Kevin Hable, and Dr. Robert Felner, and UofL co-chairs Jane Ramsey and Coach Denny Crum.

Senator Casebier welcomed Dr. Victoria Molfese, Ashland/Nystrand Chair in Early Childhood Education and Professor, College of Education and Human Development, who made a presentation on the key issues in early childhood education and implications for the transition to kindergarten.

Dr. Molfese said she had three key points to make. They were: 1) Children most likely to be "left behind" are identifiable at preschool ages; 2) Preschool children's skills in key cognitive areas impact achievement at kindergarten and beyond; and 3) Content in preschool curricula must target key cognitive skills and link to professional development for teachers and staff.

Dr. Molfese said an extensive study was conducted on 300 children from birth to age 13 where family activities were studied. The family activities ranged from reading to their children, having dinner together, and families working with children from a very young age, from high levels of activities to low levels of family activity interaction. It was determined that family activities are very important in early childhood and can also affect children's intelligence scores.

Dr. Molfese said preschool letter recognition, the ability to name letters and understanding what sounds they make, are reliably related to children's later reading. She said the ability to perform mathematics is founded on preschool number and shape recognition. Dr. Moves said preschool key skills, such as school-age word reading and school-age reading comprehension, are indicators of future reading skills in children.

Dr. Molfese said key cognitive skills must be taught to children during the preschool years. The preschool teachers and staff must believe key cognitive skills are important, and systematically use curricula that target these skills. She said there are three ways to reinforce the teaching of key cognitive skills: 1) Professional development must link to curriculum targeting key cognitive skills; 2) Professional development needs to reinforce why the targeted cognitive skills are critical; and 3) Preschool teachers and staff need help to understand how research evidence targets cognitive skills as "critical".

Dr. Molfese said to maximize preschoolers' learning there must be a balance between teacher-directed and child-centered learning opportunities. She said programs must be well planned, playful, and purposeful. Dr. Molfese said preparing children's cognitive readiness does not have to compromise social-emotional well-being. The family plays a critical partnership role.

Representative Siler asked about the decline in learning from three to six. Dr. Molfese said the decline could be measurement error as there is variability in those groups. She said other studies show a slight decline as well, but the decline is not reliable differences, except for the lowest group. Representative Siler said it seems like learning varies by gender as well. Dr. Molfese said the trend is downward in all three groups, and it was not broken out by sex differences.

Senator Seum asked who or what sets the criteria as to what child goes to preschool. Dr. Molfese said it could depend upon the source of funding, and many of the public preschools are funded with federal government funds, which include Headstart,

Evenstart, and Jumpstart programs. Senator Seum asked the income level in which a child would qualify for preschool. Dr. Molfese said the federally funded programs cover children whose families are at the poverty level, which is $22,000 for a family of four. She said more funding is needed for early childhood so that more children can attend preschool. She believes preschool should be universal.

Senator Neal discussed the targeting of key cognitive skills for children who are beyond preschool. He asked Dr. Molfese if some remedial corrective actions could be used for those children based upon research completed at the UofL. Dr. Molfese said yes, and there are more tools being published for free for families that can be used to target reading skills in preschool children. Senator Neal asked where these materials were located. Dr. Molfese said she would send him a recent publication, but "Get ready to Read" is free and on the web. Senator Neal asked about tools for older children in 6th grade and above that may have issues with reading. Dr. Molfese said the materials she referenced are targeted for preschool and 1st graders. She explained that considerable research has been done to target older children with reading problems, but what is less available is how families can get involved to help their children to increase their reading skills.

Representative Marzian asked what initiative UofL was taking by collaborating with the Department of Education to provide child care assistance to students attending the university. Dr. Molfese said UofL is working very hard to get a childcare facility on campus so that students can have their children in a university childcare program that will have an educational component for the older students as well. She said there was a pilot for five years for evening childcare because of the vast amount of students enrolled in the evenings, but because of the timeframe in which the families were in school, it was not as popular as they thought it would be.

Dr. Willihnganz discussed the proposal to obtain funding that connects childcare with resources in the early childhood education department. Start-up funding is needed to get it started, with annual costs in the proposal showing it could be self-generated for its own income once it was up and running. She said space was an issue at the present time. Representative Marzian asked what the start-up cost would be. Dr. Willihnganz said estimates are $300,000 - $500,000, and in light of recent financial cuts, it has been difficult to find the money.

Representative Draud said one of the most important things Kentucky has done in education has been to place an emphasis on early childhood education. He said if Kentucky does a good job with educating children early, it can save significant problems that develop later for the older students. He said many programs in Kentucky offer preschool to all three and four year olds, and not just those that qualify financially. He feels policy makers need to fund preschool for all three and four year olds in the public schools in an effort to minimize later problems that may develop.

Senator Casebier introduced Dr. Bill Bush, Professor, Mathematics Education and Director, Center for Research in Math and Science Teacher Development, UofL, who said his center has been in place for three years. He said there are three main purposes of the center. They are: 1) Conduct research on the development of mathematics and science teachers; 2) Build exemplary models of teacher recruitment, teacher education programs, and professional development experiences; and 3) Build nationally competitive doctoral programs.

Dr. Bush described several projects. The first project, the Appalachian Collaborative Center for Learning, is funded through the National Science Foundation (NSF) and has national implications, as well as regional importance particularly in Appalachian areas of the state. The second project, the Urban University Partnership for Mathematics and Science Teachers, has national implications in terms of teacher assessments that Kentucky is building, and also using the funds to implement local initiatives. Dr. Bush described a third project, Mathematics Preparation of Kentucky's Middle School Teachers that is funded by the Education Professional Standards Board (EPSB). Through this initiative an analysis will be conducted of the mathematics preparation of the middle school teachers at the eight state universities across the state to determine the weaknesses and strengths of the programs. A fourth project is the Louisville Area Science and Mathematics Alliance for Recruitment and Teacher Education Reform, a local project that relies on heavy recruitment within Jefferson County and the Ohio Valley Education Cooperative.

Dr. Bush said the Appalachian Collaborative Center for Learning, Assessment, and Instruction in Mathematics (ACCLAIM) is one of 15 centers for learning and teaching funded by the NSF. This project has been funded at $10 million for five years with an opportunity for renewal for another five years at $10 million. ACCLAIM is a partnership among the University of Tennessee, the University of Kentucky, Ohio University, Marshall University, the University of Louisville, West Virginia University, and the Kentucky Science and Technology Corporation.

Dr. Bush said the primary mission of ACCLAIM is the cultivation of indigenous leadership capacity for the improvement of school mathematics in rural places. He said ACCLAIM addresses the shortage of doctoral students, and creates a unique doctoral program that is a collaborative program among five of the doctoral institutions and allows students to work on their doctoral programs without leaving current employment positions.

Dr. Bush said ACCLAIM has sponsored research in mathematics education across the country. There is an on-line journal of the rural math educator that covers issues in mathematics teaching and learning in rural areas, and there are conferences for the mathematics teacher educators, and the private colleges, regional institutions, and state

universities to bring together Appalachian educators interested in the preparation of mathematics teachers. Dr. Bush said there are also mathematics professional development teams (PDTs) that form alliances among schools and postsecondary institutions. PDTs, composed of mathematics teachers, preservice teachers, and university faculty, define and address professional development and resource needs of the mathematics departments, as well as the needs of individual members.

Dr. Bush said the U²PMAST program is used to develop diagnostic teacher assessments in mathematics and science. This is a research tool to study teacher knowledge, an assessment tool to determine the effectiveness of courses and professional development, and a diagnostic tool to help teachers who want to become mathematics and science teachers.

Dr. Bush said in three years, the Center has: 1) increased the number of mathematics and science preservice teachers at UofL; 2) designed new courses in mathematics and science courses for teachers at UofL; 3) increased the number of mathematics education doctoral students in Appalachia and at of UofL; 4) established an unexplored line of research in mathematics and rural education; and 5) developed mathematics and science teacher assessments that will affect the quality of teaching nationally.

Representative Moberly thanked Dr. Bush for being the brains behind the math initiative that he sponsored in House Bill 193 in 2004, which will hopefully pass both chambers in the 2005 Session.

Representative Draud asked if Dr. Bush was aware of the early math testing program that the legislature passed a number of years ago for students in high school. Dr. Bush said he was. Representative Draud asked if the teachers in Jefferson County were utilizing the program. Dr. Bush said the only data he has seen for this program has come from Northern Kentucky University and the University of Kentucky. Representative Draud said that Dr. Bush should ensure that teachers in Jefferson County are aware of the test as many students in high school are not aware of the math skills that will be required of them to know how to perform in college.

Senator Casebier introduced Dr. John Trent, Director, James Graham Brown Cancer Center Computational Biology Facility, and Assistant Professor of Medicine, Biochemistry, and Molecular Biology, UofL, who made a presentation on the drug discovery of anticancer agents. He said a woman in Kentucky has one in three chances to get cancer, and a man has one in two chances of getting cancer.

Dr. Trent discussed "The Aptamera Story", which applies the drug used in chemotherapy patients to only target the cancerous cells, and not normal cells. He said

the "Bucks for Brains" program has helped to fund and bring internationally recognized scientists to the cancer center including Dr. Donald Miller, and Ms. Paula Bates.

Dr. Trent said the use of computers will help to design the next generation of drugs to fight cancer. He said UofL has partnered with Dataseam, a startup company in incubator space at iTRC, on an initial pilot project for proof of principle. The Kentucky Dataseam Initiative is a not-for-profit entity working with the K-12 schools to expand and utilize existing computing resources. He said the K-12 school computers are idle 80 percent of the time. He said staff has coded virtual screening software to run on these machines in the background with no loss of performance to the "hands on" user. The Internet can be accessed with no additional onsite support staff and with the blessing of the Kentucky Department of Education and the Office of Education Technology. Dr. Trent said on April 23, 2004, UofL and Dataseam implemented a pilot GRID project of 70 machines at Caldwell County School District and have been running virtual screening on these machines since then.

Dr. Trent said the Caldwell County School District now has 100 machines for the pilot project. He said Warren County has agreed to make up to 300 machines available for a full implementation of the initiative. He said the Jefferson County School District has agreed to provide up to 6,000 machines for a full implementation of the initiative. Dr. Trent noted that to purchase a dedicated 1,000 processor machine would require $2 million or more. He said benefits to the school districts participating in the pilot project are central administration of their computers, exposure to university researchers, and participation in cancer research.

Dr. Trent said the project between UofL and the Kentucky Dataseam Initiative is expanding computing resources not available at UofL. It provides an educational outreach at the K-12 level, and expands UofL's presence throughout the state. He said Phase 1 utilizes computer assets already purchased in the K-12 school districts, that are otherwise underutilized.

Representative Draud asked Dr. Trent if anyone else in the country was trying cancer treatment experiments such as this one. Dr. Trent said this is the first kind in the state, and to his knowledge, the first in the nation. He also studied three years in Europe, and never saw research of this kind performed there.

Senator McGaha said this was very worthwhile research, and asked if Dr. Trent was hired by UofL through the "Bucks for Brains" program. Dr. Trent said he was hired indirectly through "Bucks for Brains", as he was recruited by Dr. Donald Miller, who had been hired directly through the program. Senator McGaha asked about Aptamera, and whether the company was open to new investors. Dr. Trent said they no, they have private investors, and UofL follows strict guidelines to ensure there are no conflicts of interest.

Senator Blevins asked about the type of computers being used for the project. Dr. Trent said at the present time, it is simpler and more cost effective to use Apple computers because the software to get the computers talking to each other is part of the next operating system, and at the moment, the software is free. Senator Blevins asked if Bill Gates knew about the project, and might be an interested donor. Dr. Trent said the Bill Gates Foundation has decided to invest their money in infectious diseases, not cancer. Senator Blevins wondered why we are not using all computers in all the school systems to help with the research. Dr. Trent said if we used every computer in every school, that would be a first in the nation and the world, and ideally this is what UofL wants to do depending upon funding. Senator Blevins asked what it costs to bring in a new school to the project. Dr. Trent said it depends upon the size of the school. The Kentucky Dataseam Initiative has a current budget of about $7 million, and trying to find additional funding.

Representative Cherry asked Dr. Trent if 6,000 computers was the most the project could use, or could he foresee a facility that could use 60,000 computers. Is there a finite limit to the number of computers used? Dr. Trent said there is a program out of the University of Oxford in England that has hooked up 2.2 million computers. Mr. Brian Gupton, Dataseam, said he could access 12,000 computers in the first year.

Representative Cherry asked Dr. Trent if Kentucky was to the point where funding has stopped the process of the GRID. Dr. Trent said yes, but the Kentucky Dataseam Initiative is seeking other state and federal funding sources. Mr. Gupton said it is important to understand that this is an extreme benefit and a judicious usage of the tax dollar. The 12,000 initial machines targeted to bring into the GRID scenario has the ability to tap into $10 million worth of unrealized tax value on the machines for the benefit of the Commonwealth.

Senator Casebier introduced Dr. Christine V. Rich, Assistant Professor, Department of Chemistry, UofL, who presented on the Groundwork Education in Mathematics and Science (GEMS) program. Dr. Rich said GEMS is a three year, $2 million project, funded through the NSF under their graduate fellows in the K-12 education program. She said the institutions involved in the project are UofL and JCPS. GEMS is creating nine graduate and three undergraduate fellowships each year for the next three years at UofL for students who are studying in the areas of mathematics, chemistry, physics, and geosciences. The 12 fellows will work side-by-side with teachers in five local, elementary schools.

Dr. Rich said there are several goals of the GEMS programs. It is to designed to improve graduate fellows' ability to effectively communicate their knowledge to others not in their field in level-appropriate language. The fellows should take an active role in the classroom where they can serve as role models for novice scientists and

mathematicians. Finally, GEMS should help to create a cadre of science, technology, engineering, and mathematics professionals that use this K-12 educational experience to become knowledgeable advocates for improving science and math education in their communities.

Dr. Rich said the GEMS program is intended to increase content knowledge and best-teaching practices of elementary teachers in mathematics and science by focusing on the core content curriculum, and using NSF-developed curricular materials. GEMS will also enrich the learning of K-5 students in mathematics and science by improving the quality of inquiry-based instructions, and providing mathematics and science role models in the classroom.

Senator Casebier introduced Dr. Stephen Daeschner, Superintendent, Jefferson County Public Schools, and Dr. Robert Felner, Dean, College of Education and Human Development, UofL. Mr. Kevin Hable, Chair, Greater Louisville Inc. (GLI) "Every1Reads" Committee, was absent due to an emergency. Dr. Daeschner said as with many school districts across the nation, JCPS is being held to increasingly stringent standards of accountability for student achievement. The district welcomes the challenge and is committed to working with the community, state and nation to continue to bring about the types of student gains Kentucky wants and needs.

Dr. Daeschner said through a collaborative community process, GLI, the metropolitan area's chambers of commerce, recently published their findings and recommendations regarding JCPS' strengths and weaknesses. The GLI finds that the most critical student achievement issue is literacy, and the district agrees. JCPS then designed the "Every1Reads" project.

Dr. Daeschner explained that the goal of the project is to ensure that within four years, every child in the system can read at, or above, grade level. Guaranteeing that every single child in the system can read at grade level is a goal that goes far beyond what most other large districts are attempting. However, JCPS believes this an achievable, and necessary ambition. Dr. Daeschner said "Every1Reads" creates an innovative, seamless, comprehensive system that includes high expectations on teachers and students; rigorous, frequent, and timely assessments. Intervention option protocols for lagging students are being redesigned to ensure that all students get the type of personalized grade-level appropriate interventions they require to succeed. New feedback mechanisms, teacher training, and intensive community participation methods are currently being developed. Dr. Daeschner said by the end of the four year project, the program will stand as a model, not only within the region, but throughout the United States.

Dr. Daeschner said GLI and JCPS have already begun a dedicated campaign to push "Every1Reads" forward. He said committees have been formed that employ talents,

experiences, and resources from throughout the community to develop a comprehensive approach to communications, issues, advocacy, public engagement, volunteer recruitment, and fundraising. He said the people committed to the project goals include district staff, the business community, and officials from metro government.

Dr. Daeschner concluded that new funds are necessary to provide the additional professional development, materials, and interventions this project needs to be successful. An anonymous donor has already committed $1 million, the Gheens Foundation $1 million, and the State of Kentucky more than $1 million for the project in its currently pending budget. He said however, implementation of the project's objectives will require more than $16 million for the next four years. To achieve the mission, JCPS has already committed more than $2.1 million per year, and GLI has committed to raising another $2 million from other sources.

Representative Siler commended Dr. Daeschner and JCPS on the number of students enrolling in advanced placement courses, and the gains and pass rates of tests completed.

Representative Feeley asked if the statutory requirement for background checks for volunteers has slowed down the process for the "Every1Reads" project. Dr. Daeschner said yes, to some degree.

Representative Marzian thanked Dr. Daeschner and Dr. Felner for helping students to reach proficiency in reading, and ultimately be able to hold down a job in the workforce, and be productive citizens. She pointed out that Jefferson County has a huge population of homeless children, and a huge population of students receiving free and reduced lunch.

Dr. Daeschner said the English as a Second Language and homeless populations are the fastest growing populations in Jefferson County. He said the massive rate increases are largely due to being an urban district.

With no further business before the committee, the meeting adjourned at 3:35 p.m.